IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
TYLER DIVISION

REALTIME DATA, LLC,	§	
	§	
Plaintiff,	§	
	§	**CIVIL ACTION NO. 6:15-CV-463**
	§	**RWS-JDL**
V.	§	
	§	**LEAD CASE**
	§	
ACTIAN CORPORATION ET AL.,	§	**JURY TRIAL DEMANDED**
	§	
Defendants.	§	

REALTIME DATA, LLC,	§	
	§	
Plaintiff,	§	
	§	**CIVIL ACTION NO. 6:16-CV-88**
	§	**RWS-JDL**
	§	
	§	**LEAD CASE**
V.	§	
	§	**JURY TRIAL DEMANDED**
ORACLE AMERICA, INC.,	§	
HEWLETT PACKARD ENTERPRISE	§	
COMPANY, and HP ENTERPRISE	§	
SERVICES, LLC,	§	
	§	
Defendants.	§	

MEMORANDUM OPINION AND ORDER

This claim construction opinion construes the disputed claim terms in U.S. Patent No.

6,597,812 ("the '812 Patent"), U.S. Patent No. 7,378,992 ("the '992 Patent"), U.S. Patent No.

7,415,530 ("the '530 Patent"), U.S. Patent No. 8,643,513 ("the '513 Patent"), and U.S. Patent

No. 9,116,908 ("the '908 Patent"). Plaintiff Realtime Data, LLC alleges that Defendants

infringe the asserted patents.[1] Plaintiff filed an opening claim construction brief (Doc. No. 305), to which Defendants filed a Response (Doc. No. 317), and Plaintiff filed a Reply (Doc. No. 331). The parties additionally submitted a Joint Claim Construction Chart pursuant to P.R. 4-5(d). Doc. No. 336. On July 7, 2016, the Court held a claim construction hearing. Upon consideration of the parties' arguments, and for the reasons stated herein, the Court adopts the constructions set forth below.

OVERVIEW OF THE PATENTS

Plaintiff contends that Defendants literally infringe the asserted patents. The '992 and '513 patents relate "generally to data compression and decompression and, more particularly, to systems and methods for data compression using content independent and content dependent data compression and decompression." '992 Patent at 1:22–26; '513 Patent at 1:30–33. The '992 Patent is entitled "Content Independent Data Compression Method and System." None of the disputed terms are found in the '992 Patent. The '513 Patent is entitled "Data Compression Systems and Methods." Claims 1 and 15 of the '513 patent are representative and recite as follows:

> 1. A method of compressing a plurality of data blocks, comprising:
> analyzing the plurality of data blocks to recognize when an appropriate content independent compression algorithm is to be applied to the plurality of data blocks;
> applying the appropriate content independent data compression algorithm to a portion of the plurality of data blocks to provide a compressed data portion;
> analyzing a data block from another portion of the plurality of data blocks for recognition of any characteristic, attribute, or parameter that is indicative of an appropriate content dependent algorithm to apply to the data block; and
> applying the appropriate content dependent data compression algorithm to the data block to provide a compressed data

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[1] Defendants include: EchoStar Corporation, Hughes Network Systems, LLC, Hewlett Packard Enterprise Co., HP Enterprise Services, LLC, Riverbed Technology, Inc., Dell Inc., Oracle America, Inc., SAP America, Inc., and Sybase, Inc.

block when the characteristic, attribute, or parameter is identified,

wherein the analyzing the plurality of data blocks to recognize when the appropriate content independent compression algorithm is to be applied excludes analyzing based only on a descriptor indicative of the any characteristic, attribute, or parameter, and

wherein the analyzing the data block to recognize the any characteristic, attribute, or parameter excludes analyzing based only on the descriptor.

15. A device for compressing data comprising:

a first circuit configured to analyze a plurality of data blocks to recognize when an appropriate content independent compression algorithm is to be applied to the plurality of data blocks;

a second circuit configured to apply the appropriate content independent data compression algorithm to a portion of the plurality of data blocks to provide a compressed data portion;

a third circuit configured to analyze a data block from another portion of the plurality of data blocks for recognition of any characteristic, attribute, or parameter that is indicative of an appropriate content dependent algorithm to apply to the data block; and

a fourth circuit configured to apply the appropriate content dependent data compression algorithm to the data block to provide a compressed data block when the any characteristic, attribute, or parameter is identified,

wherein the first circuit is further configured to analyze the plurality of data blocks to recognize when the appropriate content independent compression algorithm is to be applied by excluding analyzing based only on a descriptor indicative of the any characteristic, attribute, or parameter, and

wherein the third circuit is further configured to analyze the data block to recognize the any characteristic, attribute, or parameter by excluding analyzing based only on the descriptor.

The '812 Patent is entitled "System and Method for Lossless Data Compression and Decompression" and relates "generally to data compression and decompression and, more particularly to systems and methods for providing lossless data compression and decompression

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using a combination of dictionary and run length encoding." '812 Patent at 1:13–17. Claim 1 of

the '812 patent is representative and recites as follows:

> 1. A method for compressing input data comprising a plurality of data blocks, the method comprising the steps of:
>> detecting if the input data comprises a run-length sequence of data blocks;
>> outputting an encoded run-length sequence, if a run-length sequence of data blocks is detected;
>> maintaining a dictionary comprising a plurality of code words, wherein each code word in the dictionary is associated with a unique data block string;
>> building a data block string from at least one data block in the input data that is not part of a run-length sequence;
>> searching for a code word in the dictionary having a unique data block string associated therewith that matches the built data block string; and
>> outputting the code word representing the built data block string.

The '530 and '908 Patents are both entitled "System and Methods for Accelerated Data

Storage and Retrieval" and relate "generally to data storage and retrieval and, more particularly

to systems and methods for improving data storage and retrieval bandwidth utilizing lossless data

compression and decompression." '530 Patent at 1:15–18; '908 Patent at 1:15–18. Claim 1 of the

'530 patent is representative and recites as follows:

> 1. A system comprising:
>> a memory device; and
>> a data accelerator, wherein said data accelerator is coupled to said memory device, a data stream is received by said data accelerator in received form, said data stream includes a first data block and a second data block, said data stream is compressed by said data accelerator to provide a compressed data stream by compressing said first data block with a first compression technique and said second data block with a second compression technique, said first and second compression techniques are different, said compressed data stream is stored on said memory device, said compression and storage occurs faster than said data stream is able to be stored on said memory device in said received form, a first data descriptor is stored on said

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memory device indicative of said first compression technique, and said first descriptor is utilized to decompress the portion of said compressed data stream associated with said first data block.

Claim 1 of the '908 patent is representative and recites as follows:

1. A system comprising:
a memory device; and
a data accelerator, configured to compress: (i) a first data block with a first compression technique to provide a first compressed data block; and (ii) a second data block with a second compression technique, different from the first compression technique, to provide a second compressed data block;
wherein the compressed first and second data blocks are stored on the memory device, and the compression and storage occurs faster than the first and second data blocks are able to be stored on the memory device in uncompressed form.

CLAIM CONSTRUCTION PRINCIPLES

"It is a 'bedrock principle' of patent law that 'the claims of a patent define the invention to which the patentee is entitled the right to exclude." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (quoting *Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1115 (Fed. Cir. 2004)). The Court examines a patent's intrinsic evidence to define the patented invention's scope. *Id.* at 1313-1314; *Bell Atl. Network Servs., Inc. v. Covad Commc'ns Group, Inc.*, 262 F.3d 1258, 1267 (Fed. Cir. 2001). Intrinsic evidence includes the claims, the rest of the specification and the prosecution history. *Phillips*, 415 F.3d at 1312-13; *Bell Atl. Network Servs.*, 262 F.3d at 1267. The Court gives claim terms their ordinary and customary meaning as understood by one of ordinary skill in the art at the time of the invention. *Phillips*, 415 F.3d at 1312-13; *Alloc, Inc. v. Int'l Trade Comm'n*, 342 F.3d 1361, 1368 (Fed. Cir. 2003). Claim language guides the Court's construction of claim terms. *Phillips*, 415 F.3d at 1314. "[T]he context in which a term is used in the asserted claim can be

highly instructive." *Id.* Other claims, asserted and unasserted, can provide additional instruction because "terms are normally used consistently throughout the patent." *Id.* Differences among claims, such as additional limitations in dependent claims, can provide further guidance. *Id.*

"[C]laims 'must be read in view of the specification, of which they are a part.'" *Id.* (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995)). "[T]he specification 'is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term.'" *Id.* (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)); *Teleflex. Inc. v. Ficosa N. Am. Corp.*, 299 F.3d 1313, 1325 (Fed. Cir. 2002). In the specification, a patentee may define his own terms, give a claim term a different meaning than it would otherwise possess, or disclaim or disavow some claim scope. *Phillips*, 415 F.3d at 1316. Although the Court generally presumes terms possess their ordinary meaning, this presumption can be overcome by statements of clear disclaimer. *See SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1343-44 (Fed. Cir. 2001). This presumption does not arise when the patentee acts as his own lexicographer. *See Irdeto Access, Inc. v. EchoStar Satellite Corp.*, 383 F.3d 1295, 1301 (Fed. Cir. 2004).

The specification may also resolve ambiguous claim terms "where the ordinary and accustomed meaning of the words used in the claims lack sufficient clarity to permit the scope of the claim to be ascertained from the words alone." *Teleflex, Inc.*, 299 F.3d at 1325. For example, "[a] claim interpretation that excludes a preferred embodiment from the scope of the claim 'is rarely, if ever, correct." *Globetrotter Software, Inc. v. Elam Computer Group Inc.*, 362 F.3d 1367, 1381 (Fed. Cir. 2004) (quoting *Vitronics Corp.*, 90 F.3d at 1583). But, "[a]lthough

the specification may aid the court in interpreting the meaning of disputed language in the claims, particular embodiments and examples appearing in the specification will not generally be read into the claims." *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988); *see also Phillips*, 415 F.3d at 1323.

The prosecution history is another tool to supply the proper context for claim construction because a patentee may define a term during prosecution of the patent. *Home Diagnostics Inc. v. LifeScan, Inc.*, 381 F.3d 1352, 1356 (Fed. Cir. 2004) ("As in the case of the specification, a patent applicant may define a term in prosecuting a patent."). The well-established doctrine of prosecution disclaimer "preclud[es] patentees from recapturing through claim interpretation specific meanings disclaimed during prosecution." *Omega Eng'g Inc. v. Raytek Corp.*, 334 F.3d 1314, 1323 (Fed. Cir. 2003). The prosecution history must show that the patentee clearly and unambiguously disclaimed or disavowed the proposed interpretation during prosecution to obtain claim allowance. *Middleton Inc. v. 3M Co.*, 311 F.3d 1384, 1388 (Fed. Cir. 2002); *see also Springs Window Fashions LP v. Novo Indus., L.P.*, 323 F.3d 989, 994 (Fed. Cir. 2003) ("The disclaimer . . . must be effected with 'reasonable clarity and deliberateness.'") (citations omitted)). "Indeed, by distinguishing the claimed invention over the prior art, an applicant is indicating what the claims do not cover." *Spectrum Int'l v. Sterilite Corp.*, 164 F.3d 1372, 1378-79 (Fed. Cir. 1988) (quotation omitted). "As a basic principle of claim interpretation, prosecution disclaimer promotes the public notice function of the intrinsic evidence and protects the public's reliance on definitive statements made during prosecution." *Omega Eng'g, Inc.*, 334 F.3d at 1324.

Although "less significant than the intrinsic record in determining the legally operative meaning of claim language," the Court may rely on extrinsic evidence to "shed useful light on

the relevant art." *Phillips*, 415 F.3d at 1317 (quotation omitted). Technical dictionaries and treatises may help the Court understand the underlying technology and the manner in which one skilled in the art might use claim terms, but such sources may also provide overly broad definitions or may not be indicative of how terms are used in the patent. *Id.* at 1318. Similarly, expert testimony may aid the Court in determining the particular meaning of a term in the pertinent field, but "conclusory, unsupported assertions by experts as to the definition of a claim term are not useful." *Id.* Generally, extrinsic evidence is "less reliable than the patent and its prosecution history in determining how to read claim terms." *Id.*

In patent construction, "subsidiary fact finding is sometimes necessary" and the court "may have to make 'credibility judgments' about witnesses." *Teva v. Sandoz*, 135 S.Ct. 831, 838 (2015). In some cases, "the district court will need to look beyond the patent's intrinsic evidence and to consult extrinsic evidence in order to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period." *Id.* at 841. "If a district court resolves a dispute between experts and makes a factual finding that, in general, a certain term of art had a particular meaning to a person of ordinary skill in the art at the time of the invention, the district court must then conduct a legal analysis: whether a skilled artisan would ascribe that same meaning to that term *in the context of the specific patent claim under review*." *Id.* (emphasis in original). When the court makes subsidiary factual findings about the extrinsic evidence in consideration of the "evidentiary underpinnings" of claim construction, those findings are reviewed for clear error on appeal. *Id.*

DISCUSSION

The parties dispute the meaning of the following claim terms:

I.   "recognition of any characteristic, attribute, or parameter that is indicative of an appropriate content dependent algorithm" ('513 Patent, Claims 1 & 15)

Term/Phrase	Plaintiff's Proposal	Defendants' Proposal
recognition of any characteristic, attribute, or parameter that is indicative of an appropriate content dependent algorithm ('513 Patent Claims 1 & 15)	No construction necessary. Alternatively: Recognition of any data type, data structure, data block format, file substructure, file type, and/or any other parameter that is indicative of an appropriate content dependent algorithm	Recognition of any data type that is indicative of a content dependent algorithm associated with the data type

Plaintiff contends that construction is unnecessary because this term is "understandable to a person of ordinary skill and even a lay person." Doc. No. 305 at 12. Plaintiff proposes an alternative construction and asserts that the Court should reject Defendants' proposed construction because it "improperly limits the claimed phrase 'characteristic, attribute, or parameter' to only one of the described parameters: 'data type.'" *Id.* at 12–13. Essentially, Plaintiff contends that Defendants have attempted to rewrite the claims by importing the "data type only" limitation. Plaintiff argues that (1) the '513 Patent claims do not recite "data type," (2) the patentee does not define "characteristic, attribute, or parameter" to mean "data type" only, and (3) the patentee does not disavow the full scope of the phrase. *Id.* at 13.

Plaintiff contends that its alternative proposal, on the other hand, is consistent with the plain meaning of term because it "is derived directly from the specification." *Id.* at 12. Specifically, the specification "provides explicit examples of data-content parameters in addition to the data type that can be recognized with respect to content dependent algorithm, including all

of the items in [Plaintiff's] proposal." *Id.* at 13 (citing '513 Patent at 16:15–21; 4:42–45; 22:65–23:4) (emphasis omitted). In other words, data type is merely one of several parameters that may be used to identify an appropriate content dependent algorithm. Plaintiff argues that Defendants' proposed construction improperly excludes some of the specification's described embodiments. Doc. No. 305 at 13 (citing *SanDisk Corp. v. Memorex Prods.*, 415 F.3d 1278, 1285–86 (Fed. Cir. 2005)). Finally, Plaintiff argues that if the Court limited this term to "data type," independent claim 1 would be narrower than dependent claims 11 and 13. Doc. No. 305 at 13–14.

Defendant responds that Plaintiff's proposal improperly broadens the meaning of "characteristic, attribute, or parameter" because it ignores surrounding claim language. Doc. No. 317 at 8. Defendant contends that "data type" recognition is the only method of selecting a content dependent algorithm, and therefore, "characteristic, attribute, or parameter" should be construed to mean "data type" only. *Id.* at 8–9 (citing '513 Patent at 3:55–66, 15:60–63, 16:15–16, 16:24–27, 16:37–39, 22:65–23:4, Fig. 13(a), Fig. 15(a), Fig. 17(a)). Specifically, Defendants argue that "'data types, data structures, data block formats, file substructures, file types, and/or any other parameters,' are all ultimately reduced to 'data type,' because the specification teaches that only 'data type' is ultimately indicative of when content dependent compression should be applied." Doc. No. 317 at 10–11. Defendants also point to this Court's decision in *Packeteer*, where it held that "content dependent data compression is applied to identified **data types** based on the encoder's ability to effectively compress the data type . . . ." *Id.* at 9 (citing *Realtime Data LLC d/b/a IXO v. Packeteer et al.*, No. 6:08-cv-00144-LED-JDL at Doc. No. 371 at 32 (E.D. Tex., June 22, 2009) (emphasis added). Finally, Defendants point to a statement Plaintiff made to the Patent Office during the second reexamination of the '992 Patent, where Plaintiff stated "[t]he new descriptive matter defined 'analyzing' in the context of evaluating an incoming

data stream in order to recognize, from the data itself, the associated data type." Doc. No. 348 at 3 (emphasis omitted). Defendants argue that Plaintiff is now attempting to improperly expand the meaning of this term. *Id.* at 3–4.

Claim 1 of the '513 Patent states, in relevant part: "A method of compressing a plurality of data blocks, comprising: . . . analyzing a data block from another portion of the plurality of data blocks for recognition of any characteristic, attribute, or parameter that is indicative of an appropriate content dependent algorithm to apply to the data block . . . ." Similarly, claim 15 states: "A device for compressing data comprising: . . . a third circuit configured to analyze a data block from another portion of the plurality of data blocks for recognition of any characteristic, attribute, or parameter that is indicative of an appropriate content dependent algorithm to apply to the data block . . . ." Additionally, dependent claim 13 states: "The method of claim 1, wherein the any characteristic attribute, or parameter is associated with a data block format or a file type information associated with the data block." These claims provide that the "characteristic, attribute, or parameter" must be indicative of the appropriate content dependent algorithm that is to be applied. Importantly however, the independent claims give no indication that "characteristic, attribute, or parameter" should be interpreted as "data type."

The specification is further instructive on this claim term. As discussed above, "[a]lthough the specification may aid the court in interpreting the meaning of disputed language in the claims, particular embodiments and examples appearing in the specification will not generally be read into the claims." *Constant v. Advanced Micro-Devices, Inc.*, 848 F.2d 1560, 1571 (Fed. Cir. 1988); *see also Phillips*, 415 F.3d at 1323. Additionally, "[a] claim interpretation that excludes a preferred embodiment from the scope of the claim 'is rarely, if ever, correct.'"

Globetrotter Software, Inc. v. Elam Computer Group Inc., 362 F.3d 1367, 1381 (Fed. Cir. 2004) (quoting *Vitronics Corp.*, 90 F.3d at 1583).

> The specification states:
>
> A content dependent data recognition module 1300 analyzes the incoming data stream to recognize data types, data structures, data block formats, file substructures, file types, and/or any other parameters that may be indicative of either the data type/content of a given data block or the appropriate data compression algorithm or algorithms (in serial or parallel) to be applied.

'513 Patent at 16:15–21; *see also id.* at 4:42–45 ("the step of analyzing the data block comprising analyzing the data block to recognize one of a data type, data structure, data block format, file substructure, and/or file types"); 22:65–23:4 ("a content dependent data recognition and[/]or estimation module 1700 is utilized to analyze the incoming data stream for recognition of data types, data strictures [sic], data block formats, file substructures, file types, or any other parameters that may be indicative of the appropriate data compression algorithm . . . to be applied.").

This language indicates that *any* of the parameters listed—including but not limited to data type—can be used to identify an appropriate data compression algorithm. Defendants contend that "data type" is the only parameter able to identify an appropriate data compression algorithm and that the other parameters listed within the specification are merely proxies for such identification. In support, Defendants have pointed to sections of the specification that state data type can be used to select an appropriate compression algorithm (citing '513 Patent at 16:15–16, 16:37–39), but those preferred embodiments cannot exclude other parameters that may be used (*see* '513 Patent at 4:42–45, 16:15–21, 22:65–23:4). *Globetrotter Software,* 362 F.3d at 1381.

Defendants also rely on this Court's decision in *Packeteer*, where the Court construed "content dependent data compression." Notably however, the patent at issue in *Packeteer* did not

define (or even discuss) "any characteristic, attribute, or parameter that is indicative of an appropriate content dependent algorithm." Instead, the actual patent language in *Packeteer* limited the parameters to include data type only. *See* U.S. Patent No. 6,624,761 (the '761 Patent) at Claim 1 ("analyzing a data block of an input data stream to identify a **data type** of the data block, the input data stream comprising a plurality of disparate data types; performing content dependent data compression . . . if the **data type** . . . is identified; performing content independent data compression . . . if the **data type** . . . is not identified."); *see also* U.S. Pat. No. 7,161,506 (the '506 Patent) at Claim 1 ("analyzing a data block of an input data stream to identify one or more **data types** of the data block . . . ."). The '513 Patent, however, provides no similar limitation, and therefore, the *Packeteer* construction does not support Defendants' proposal.

On the other hand, lending additional support to Plaintiff's interpretation of this term are dependent claims 11 and 13. Claim 11 states "[t]he method of claim 1, wherein the analyzing the plurality of data blocks includes analyzing data structures or file substructures associated with the plurality of data blocks," and Claim 13 states "[t]he method of claim 1, wherein the any characteristic, attribute, or parameter is associated with a data block format or a file type information associated with the data block." '513 Patent at Claims 11 and 13. If the Court were to construe "characteristic, attribute, or parameter" as limited to data type, it would render these dependent claims nonsensical because those claims are not limited to data type. The dependent claims would be broader than independent Claim 1, which indicates that Defendants' construction is not in accordance with proper claim construction principles.

If the Court were to limit this term to "data type" only, such a finding would exclude preferred embodiments. The specification discloses preferred embodiments that allow for the use

of parameters other than data type to identify a compression algorithm. '513 Patent at 4:42–45, 16:15–21, 22:65–23:4. Accordingly, the Court rejects Defendants' proposal because it is inconsistent with portions of the specification. *See Globetrotter Software, Inc.*, 362 F.3d at 1381.

Finally, with respect to Defendants' argument that Plaintiff concedes to the use of only data type in the second '992 Patent reexamination, the Court does not agree. The portion of the reexamination Defendants are referencing is depicted below:

> term "analyzing." Specifically, the new descriptive matter added to '355 (CIP) application's written description recited that:
>
> > A ***content dependent data recognition module 1300 analyzes the incoming data stream to recognize data types***, data structures, data block formats, file substructures, file types, and/or any other parameters that may be indicative of either the data type/content of a given data block or the appropriate data compression algorithm or algorithms (in serial or in parallel) to be applied.
>
> (*Id.* at 16:29-35 (emphasis added).)
>
> The new descriptive matter defined "analyzing" in the context of evaluating an incoming data stream in order to recognize, from the data itself, the associated data type. The term "analyzing a data block" yields data type information about the data contained ***in that data block***. This is distinct from the prior art technique of retrieving type information that is already provided, as discussed, *supra*, and disclosed in the Background section of the '992 patent. Therefore, "analyzing" is not defined as simply retrieving a file descriptor that identifies a data type.

Doc. No. 348, Ex. 1 at 11 (REALTIME039863).

As shown above, the patentee explained that merely retrieving a data type descriptor is not "analyzing." Further, the patentee made the above-reproduced statements in the context of claims that included "data type" limitations. *See id.* at 10 (REALTIME039862). Therefore,

Defendants' assertion that the reexamination solidifies their argument that this term is limited to data type only is unpersuasive.

Having resolved the parties' dispute, the Court finds the phrase "recognition of any characteristic, attribute, or parameter that is indicative of an appropriate content dependent algorithm" requires no construction.

II.   "content dependent algorithm/content dependent data compression algorithm/ content dependent compression algorithm" ('513 Patent, Claims 1, 3, 4, 6, 10, 14, 15, 18, & 22) and "content independent compression algorithm / content independent data compression" ('513 Patent, Claims 1, 3, 4, 10, 12, 15, 18, & 20)

Claim Term	Plaintiffs' Proposal	Defendants' Proposal
content dependent algorithm / content dependent data compression algorithm / content dependent compression algorithm ('513 Patent, Claims 1, 3, 4, 6, 10, 14, 15, 18, & 22)	Content dependent compression is compression that is applied using one or more encoders based on the encoder's (or encoders') ability to effectively encode the data type or content of the data block	Compression algorithm that is applied to input data that is not compressed with content independent data compression, the compression using one or more encoders selected based on the encoder's (or encoders') ability to effectively encode the data type of the data block
content independent compression algorithm / content independent data compression ('513 Patent, Claims 1, 3, 4, 10, 12, 15, 18, & 20)	Content independent compression is compression that is applied using one or more encoders without regard to the encoder's (or encoders') ability to effectively encode the data type or content of the data block	Compression [algorithm] that is applied to input data that is not compressed with content dependent data compression, the compression applied using one or more encoders without regard to the encoder's (or encoders') ability to effectively encode the data type of the data block

The parties' argument with respect to these terms revolves around whether encoders are selected based on their ability "to effectively encode the *data type or content*," as Plaintiff contends or "to effectively encode the *data type,*" as Defendants propose. The parties have stipulated that the Court should construe "data type" as "categorization of the data as one of

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ASCII, image data, multimedia data, signed and unsigned integers, pointers, or other data type."

Doc. No. 336-1 at 3. The parties have not agreed upon a construction of—nor have they asked

the Court to construe—"content."

Plaintiff urges that it would be improper to import the "data type" limitation into this

term. Doc. No. 305 at 15. Plaintiff argues that the claim language itself—and for that matter, the

language within *this term*—is sufficient to define the term. *Id.*; '513 Patent, Claim 1. Plaintiff

also contends that the specification supports its position that data type and/or content can indicate

the appropriate data compression algorithm. Doc. No. 305 at 16–18 (citing '513 Patent at 4:42–

47; 16:15–21; 18:1–4; 18:17–21; 19:13–18; 20:44–48; 21:2–6; 21:65–22:3; 22:64–23:7). In

further support, Plaintiff points to Defendants' agreement (in a recently filed petition for *inter*

partes review) that content dependent compression is based on the data type or content of the

data. Doc. No. 305 at 18. Plaintiff contends that because Defendants seek to limit this term to

"data type" only, their proposal improperly excludes a preferred embodiment. *Id.*

Additionally, Plaintiff contends that—although *Packeteer* and *Morgan Stanley* have

previously construed "content dependent compression" and "content independent

compression"—collateral estoppel does not apply here. *Id.* at 17. Plaintiff argues that those cases

involved different patents, different claims, and different claim construction arguments.[2] *Id.*;

Doc. No. 331 at 4. Further, Plaintiff argues that unlike the '513 Patent, the *Packeteer* and

Morgan Stanley patents expressly recited "data type," and "each side proposed constructions that

included only 'data type,' and whether 'data type or content' should be included in the

construction was not at issue or litigated in the prior cases." Doc. No. 305 at 18.

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[2] Plaintiff also contends that collateral estoppel does not apply because this issue was not necessary to support the judgment in *Morgan Stanley*. Doc. No. 331 at 4.

Defendants argue that the '513 Patent requires encoding (or selecting a compression algorithm) based on the ability to effectively encode the *data type*, not the content. Doc. No. 317 at 9 (citing '513 Patent at 16:37–39). Defendants point to this Court's decision in *Packeteer*, arguing that there, "both this Court and Plaintiff agreed with Defendants' proposed construction," and "both this Court and Plaintiff repeatedly stated that the constructions for those terms were based on 'data type' and not 'content.'"[3] Doc. No. 317 at 15 (emphasis and internal citations omitted). Defendants argue that the Court must therefore construe these terms according to its decision in *Packeteer*. *Id.* at 15 (citing *SightSound Technologies, LLC v. Apple Inc.*, 809 F.3d 1307, 1316 (Fed. Cir. 2015) (stating "[w]here multiple patents 'derive from the same parent patent application and share many common terms, we must interpret the claims consistently across all asserted patents.'"). At the *Markman* hearing, Defendants also argued that (1) because "content" has not been construed, a jury could become confused if the Court construes this term to include "content" and (2) the specific *content* of a photo (such as whether a picture shows a dog or a house) does not dictate which algorithm is selected; instead, the algorithm is based on the ability to effectively encode the *data type*.

Defendants argue that collateral estoppel applies here and, because their construction follows the decision in *Morgan Stanley*, the Court should find their construction appropriate. Although Plaintiff argues that collateral estoppel does not apply because the '513 Patent is a different patent than the patent at issue in *Morgan Stanley*, the claim terms are exactly the same, and "the Federal Circuit has held that collateral estoppel applies to common issues in actions involving related patents." Doc. No. 317 at 14 (citing *Mycogen Plant Sci., Inc. v. Monsanto Co.*, 252 F.3d 1306, 1310 (Fed. Cir. 2001), *cert. granted, judgment vacated on other grounds*, 535

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[3] In *Packeteer*, the patents at issue were parent patents to the '513 Patent and shared a common specification with the '513 Patent.

U.S. 1109, 122 S. Ct. 2324, (2002)) (emphasis omitted). Defendants urge "[h]ow the compression algorithm is chosen in not substantially different in the '513 Patent as compared with its parent patent[, the '747 Patent]." Doc. No. 317 at 14.

Defendants' collateral estoppel argument is unconvincing. Collateral estoppel requires four conditions: "(1) the issue under consideration is identical to that litigated in the prior action; (2) the issue was fully and vigorously litigated in the prior action; (3) the issue was necessary to support the judgment in the prior case; and (4) there is no special circumstance that would make it unfair to apply the doctrine." *Winters v. Diamond Shamrock Chemical Co.*, 149 F.3d 387, 391 (5th Cir. 1998). *See also Diet Goal Innovations LLC v. Chipotle Mexican Grill, Inc.*, 70 F. Supp. 3d 808, 811 (E.D. Tex. 2014) (citing *Mayer/Berkshire Corp. v. Berkshire Fashions Inc.*, 424 F.3d 1229, 1232 (Fed. Cir. 2005) (explaining the fourth element as "the person against whom collateral estoppel is asserted had a full and fair opportunity to litigate the issues in the prior action."). The parties' dispute primarily centers on the first element.

Plaintiff is correct that the '513 Patent was not at issue in *Morgan Stanley* and *Packeteer*. However, the elements of collateral estoppel listed above do not require the *patents* to be identical; instead, for collateral estoppel to apply, the *issue* under consideration must be identical to what was previously litigated. Nevertheless, collateral estoppel does not apply. The issue here is whether the '513 Patent requires "data type" and excludes "content," and this issue was not present in *Morgan Stanley* or *Packeteer*. The issue in *Packeteer* was whether content dependent data compression and content independent data compression required one encoder or a plurality of encoders, and the issue in *Morgan Stanley* was the order in which content dependent and content independent data compression occur. Doc. No. 305-7 at 28–35; Doc. No. 305-9 at 17–18. Further, the patents in *Packeteer* and *Morgan Stanley* specifically recited "data type," and the

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parties there did not dispute whether the construction should include "data type" to the exclusion

"content." Unlike the patents at issue in *Morgan Stanley* and *Packeteer*, under the terms of the

'513 Patent, to determine the appropriate encoder(s) does not require that one only look at the

data type.

Accordingly, collateral estoppel does not apply here because *Morgan Stanley* and

Packeteer are distinguishable from the case presently before the Court: (1) the claims at issue in

Morgan Stanley and *Packeteer* expressly recited "data type" in the claims, (2) *Morgan Stanley*

involved an issue of timing, and (3) *Packeteer* involved an issue involving the number encoders.

See, e.g., '761 Patent at Cl. 1 ("identify a data type of the data block"); '506 Patent at Cl. 1

("identify one or more data types of the data block").[4] Thus, the issue here is not "identical" to

the issue decided in the earlier proceeding.[5]

Other than the collateral estoppel issue, these disputed terms present essentially the same

issues as the "recognition of any characteristic, attribute, or parameter that is indicative of an

appropriate content dependent algorithm" term addressed above. For the following reasons and

for the same reasons as discussed above, the Court rejects Defendants' proposal limiting the

constructions to "data type."

The '513 Patent claims themselves do not specifically recite "data type." Instead, the

claims only indicate that the appropriate content dependent algorithm is derived from the

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[4] Likewise, the claims cited by Defendants as purportedly being similar, Claims 14 and 19 of United States Patent No. 7,714,747, recite "data block type."

[5] *See, e.g., DietGoal Innovations LLC v. Chipotle Mexican Grill, Inc.*, 70 F. Supp. 3d 808, 811 (E.D. Tex. 2014); *cf. Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1137 (Fed. Cir. 1985) (reissue claims were not substantially identical to the original claims, and therefore collateral estoppel did not apply); *Ohio Willow Wood Co. v. Alps S., LLC*, 735 F.3d 1333, 1342 (Fed. Cir. 2013) ("Our precedent does not limit collateral estoppel to patent claims that are identical. Rather, it is the identity of the *issues* that were litigated that determines whether collateral estoppel should apply.") (citations omitted).

recognition of "any characteristic, attribute, or parameter that is indicative" of such algorithm.

Independent claim 1 recites:

> 1. A method of compressing a plurality of data blocks, comprising:
> analyzing the plurality of data blocks to recognize when an appropriate content independent compression algorithm is to be applied to the plurality of data blocks;
> applying the appropriate content independent data compression algorithm to a portion of the plurality of data blocks to provide a compressed data portion;
> analyzing a data block from another portion of the plurality of data blocks for **recognition of any characteristic, attribute, or parameter that is indicative of an appropriate content dependent algorithm** to apply to the data block; and
> applying the appropriate content dependent data compression algorithm to the data block to provide a compressed data block when the characteristic, attribute, or parameter is identified,
> wherein the analyzing the plurality of data blocks to recognize when the appropriate content independent compression algorithm is to be applied excludes analyzing based only on a descriptor indicative of the any characteristic, attribute, or parameter, and
> wherein the analyzing the data block to recognize the any characteristic, attribute, or parameter excludes analyzing based only on the descriptor.

'513 Patent at Claim 1. Additionally, although the specification states "[e]ncoding techniques are selected based upon their ability to effectively encode different types of input data," it also states "[a] content dependent data recognition module 1300 analyzes the incoming data stream to recognize data types, data structures, data block formats, file substructures, file types, and/or any other parameters that may be indicative of either the **data type/content** of a given data block or the appropriate data compression algorithm or algorithms (in serial or in parallel) to be applied." '513 Patent at 12:54–56; 16:15–21; 16:37–39 (emphasis added). The specification further explains that "content dependent data compression is applied to a given data block when the

content of a data block cannot be identified or is not associated with a specific data compression algorithm." '513 Patent at 18:1–4 (emphasis added). The specification states "[i]f the data stream **content** is not recognized utilizing the recognition list(s) module 1310 (step 1408) the data is routed to the content independent encoder module . . . [,]" but "[i]f the data stream **content** is recognized utilizing the recognition list(s) or algorithm(s) module 1310 (step 1434) the appropriate content dependent algorithms are enabled and initialized (step 1436)." '513 Patent at 18:17–20; 19: 13–16. (emphasis added).

Thus, the Court construes the phrase "content dependent data compression algorithm/content dependent compression algorithm" as a "compression algorithm that is applied to input data that is not compressed with content independent data compression, the compression using one or more encoders selected based on the encoder's (or encoders') ability to effectively encode the data type or content of the data block." Further, the Court construes the phrase "content independent compression algorithm/content independent data compression" as "compression algorithm that is applied to input data that is not compressed with content dependent data compression, the compression applied using one or more encoders without regard to the encoder's (or encoders') ability to effectively encode the data type or content of the data block."

III. "data accelerator" ('908 Patent, Claim 1; '530 Patent, Claims 1 & 24)

Claim Term	Plaintiffs' Proposal	Defendants' Proposal
data accelerator ('908 Patent, Claim 1; '530 Patent, Claims 1 & 24)	Hardware or software with one or more compression encoders and/or decoders	One or more encoders, one or more decoders, and associated input and output buffers, input and output counters, compression ratio modules, and descriptor/extraction modules

With respect to this term, Plaintiff argues that Defendant is again attempting to import limitations into the claims from preferred embodiments. Doc. No. 305 at 23. Plaintiff's argument is twofold: (1) "data accelerator" requires "one or more compression encoders **and/or** decoders" but does not necessarily require both as Defendants suggest, and (2) the additional components Defendants have included in their proposal are not required, and in fact, the specification speaks to the optional nature of some of these additional components. Doc. No. 305 at 23–24 (citing '530 Patent at 11:32–34 & 14:42–48; '908 Patent at Claim 1 & 18:50–62).

In response, Defendants argue that because this term was coined by the inventor, the Court must look to the intrinsic evidence to derive the meaning of "data accelerator." Doc. No. 317 at 21–22 (citing *Fractus, S.A. v. Samsung Elec. Co., Ltd.*, No. 6:09-cv-203, Doc. No. 526 at 8 (E.D. Tex. Dec. 17, 2010); *Intervet Inc. v. Merial Ltd.*, 617 F.3d 1282, 1287 (Fed. Cir. 2012)). Defendants contend the claims and specification "provide clear guidance" on the meaning of this term. Doc. No. 317 at 22. At the hearing, Defendants argued that despite the representation in Figure 1, which depicts a data storage accelerator *and* a data retrieval accelerator, the inventor did not differentiate between those two data accelerators, but instead *the* data accelerator has the functionalities of both the storage and retrieval accelerators. Defendants point to independent Claim 1—which provides for a *single* data accelerator—and to dependent claims that refer to "that" single data accelerator. *Id.* (citing '530 Patent at Claims 1, 3, 4, 5; '908 Patent at Claims 1, 4, 5, 6, 7). Therefore, Defendants argue, the claims of the patents that refer to storage and retrieval accelerators "invoke the **same** data accelerator" for compression and decompression functions. Doc. No. 317 at 22 (emphasis in original). Due to the plain language of the claims, Defendants assert that "the single data accelerator of the claims must include the functionality of

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both the data storage accelerator and data retrieval accelerators and therefore must include both encoders **and** decoders." Doc. No. 317 at 23 (emphasis in original).

With respect to the additional components contained in Defendants' proposal, Defendants state "the data accelerator comprises other required and optional components," and because Figures 8 and 9 of the Patents provides for these additional components, they are to be included in the term's construction. *Id.* Defendants contend that Figures 8 and 9 are the only place the inventor provides a definition for this term, and therefore "the patentee's lexicography must govern the claim construction analysis." *Id.*at 24 (citing *Braintree Labs., Inc. v. Novel Labs., Inc.*, 749 F.3d 1349, 1356 (Fed. Cir. 2014). Specifically, Defendants state "merely because some components are optional does not mean that the data accelerator cannot include them. If these optional components are present and associated with the encoding and decoding, they are a part of the data accelerator . . . ." *Id.*

The term "data accelerator" appears in independent Claim 1 of the '908 Patent and independent Claims 1 and 24 of the '530 Patent. Claim 1 of the '530 Patent is representative of the issue and recites, in relevant part, "[a] system comprising: a memory device; and a data accelerator, wherein said data accelerator is coupled to said memory device, a data stream is received by said data accelerator in received form, . . . said data stream is compressed by said data accelerator to provide a compressed data stream . . . , said compressed data stream is stored on said memory device." Importantly, the independent claims do not address the issue of data retrieval.[6] Accordingly, when evaluating the claim language alone, it appears that "data accelerator" requires only encoders because the independent claims require only the data storage function.

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[6] Other than stating that a "first descriptor is utilized to decompress" a portion of the data stream, there no mention of decompressing and retrieving the data. '530 Patent at Claims 1 & 24.

The data retrieval functionality arises in the dependent claims: "said data accelerator retrieves said first descriptor and said compressed data stream from said memory device," "said data accelerator retrieves said compressed data stream from said memory device," and "said data accelerator retrieves said compressed data stream from said memory device and said decompression of the portion of said compressed data stream associated with said first data block is performed by said data accelerator." '530 Patent at Claims 3–5; *see* '908 Patent at Claims 4–6. The retrieval function in the dependent claims should not be imported into the independent claims. *Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, 438 F.3d 1374, 1380 (Fed. Cir. 2006). That is, the dependent claims merely set forth additional configuration limitations upon the systems recited in the independent claims.

Defendants contend that Figures 8 and 9 (depicted below) are the patentee's definition of the accelerator.
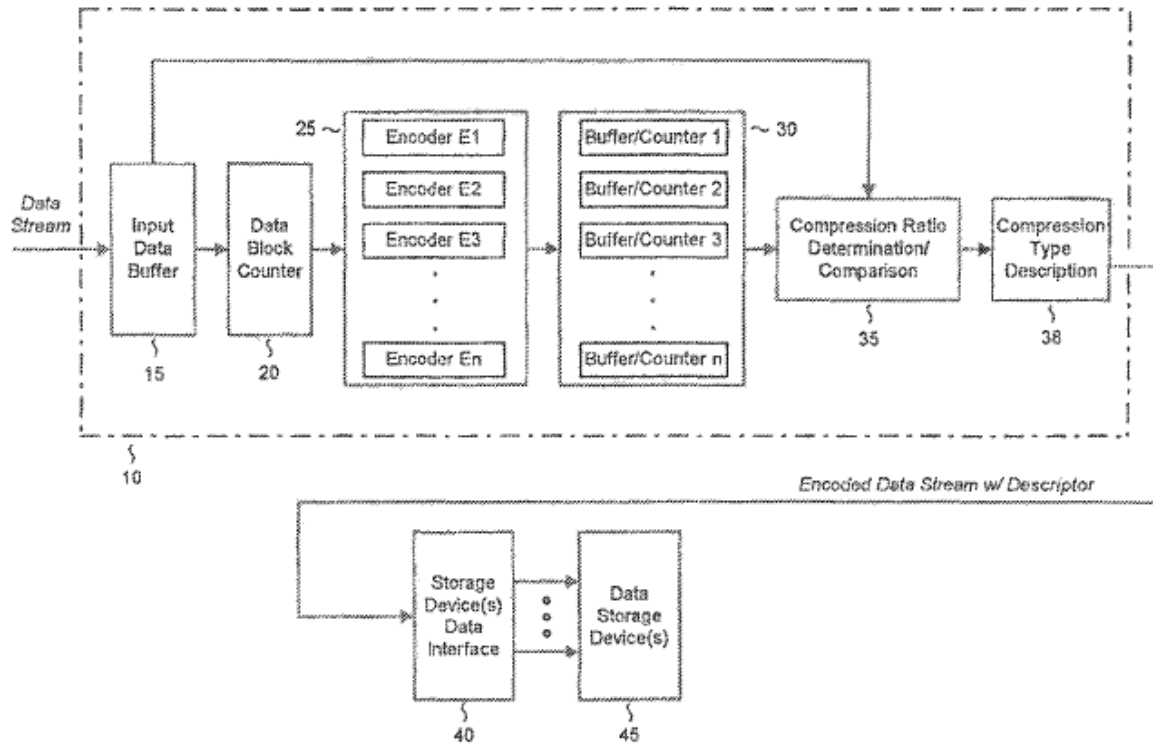
'908 Patent, Figure 8; '530 Patent, Figure 8.
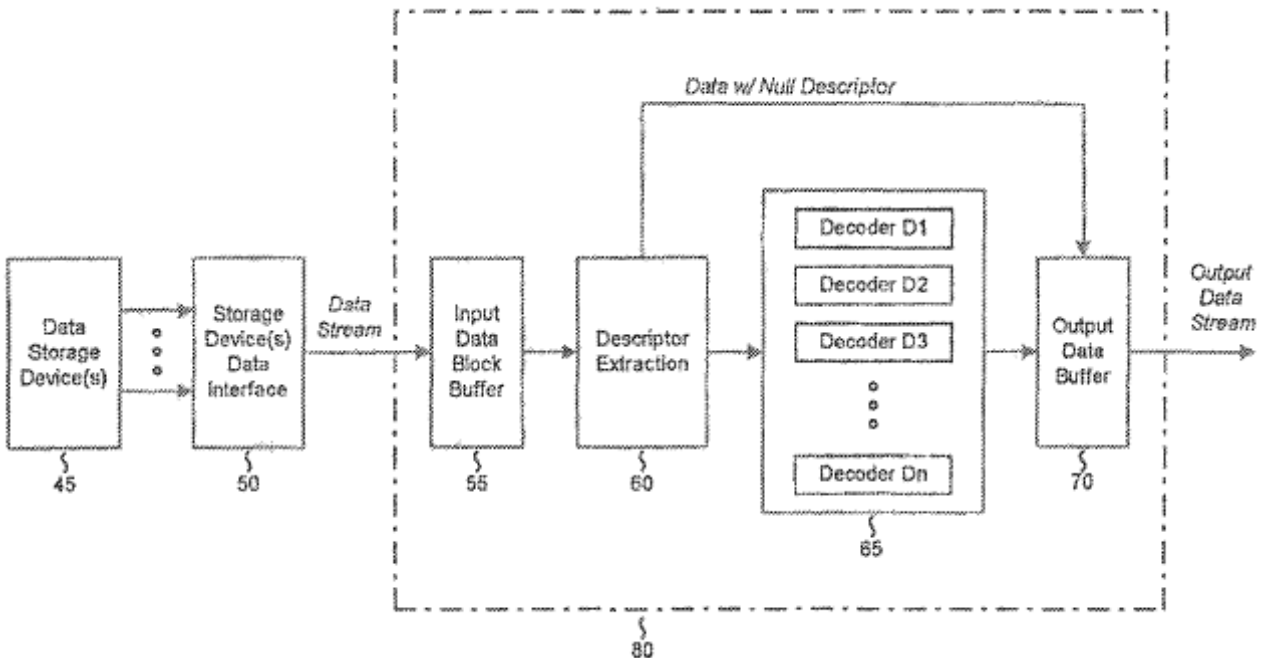
'908 Patent, Figure 9; '530 Patent, Figure 9. Defendants urge that all components of Figures 8 and 9 must be included in the construction of "data accelerator" because those figures provide the only definition of the term. The Court disagrees because the specification makes clear that the figures illustrated above merely include preferred embodiments of a "data accelerator."

For instance, the specification states "the embodiment of the data storage accelerator 10 of FIG. 8 is exemplary of a preferred compression system which **may be** implemented in the present invention, and [ ] **other compression systems** and methods known to those skilled in the art **may be employed** for providing accelerated data storage in accordance with the teachings herein." '530 Patent at 13:16–22 (emphasis added); *see also* '530 Patent at 14:42–48 (explaining a similar concept). The specification also states "the input buffer 15 and counter 20 are not required elements of the present invention." '530 Patent at 11:33–34; '908 Patent at 11:59–60. Additionally, the '908 specification states that Figure 8 is "a preferred system for accelerated data storage" and Figure 9 is "a preferred system for accelerated data retrieval." '908 Patent at 11:46–47, 13:64–66.

The claims and specification illustrate that (1) only encoders are required for a functioning "data accelerator" and (2) the additional components shown in Figures 8 and 9 are not required components of a "data accelerator" and are instead merely preferred embodiments of the invention that could be employed. Because Defendants' proposal would require the Court to find that a "data accelerator" must include both encoders and decoders, and because Plaintiff's proposal would allow for a "data accelerator" to include only a decoder, the Court rejects both parties' proposals.

As such, the Court construes the term "data accelerator" as "hardware or software with one or more compression encoders."

IV. "descriptor" (Claim 31)

Claim Term	Plaintiffs' Proposal	Defendants' Proposal
descriptor ('530 Patent, Claims 1, 2, & 24; '908 Patent, Claims 2, 4, & 22)	Any recognizable data token or descriptor [indicative of said/the compression technique]	Recognizable data that is appended to the encoded data for specifying [said/the compression technique]

The parties' arguments with respect to this term primarily revolve around whether the "descriptor" is "appended" to the data. The specification discloses what Plaintiff has identified as an express definition of this term:

> A description module 38, operatively coupled to the compression ratio module 35, appends a corresponding compression type descriptor to each encoded data block which is selected for output so as to indicate the type of compression format of the encoded data block. *A data compression type descriptor is defined as any recognizable data token or descriptor that indicates which data encoding technique has been applied to the data.*

Doc. No. 305 at 25 (citing '530 Patent at 12:33-41) (emphasis added). Plaintiff argues that because the patentee assigned this definition to "descriptor," the Court must find that definition controlling. Doc. No. 305 at 24–25 (citing *Braintree Labs., Inc. v. Novel Labs., Inc.*, 749 F.3d

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1349, 1356 (Fed. Cir. 2014); *Phillips*, 415 F.3d at 1316). Plaintiff contends that the Court also construed this term according the above definition in its *MetroPCS* decision, which further indicates that it is the proper construction for this term.[7]

Additionally, Plaintiff urges that (1) Defendants' proposed "appended" language would limit the term to a particular embodiment, and (2) Defendants' proposed "specifying" limitation is directly contrary to the specification. Doc. No. 305 at 25–26. Plaintiff argues that the single paragraph in the specification referring to appending the descriptor does not provide an absolute requirement of appendage. *Id.* at 25 (citing '530 Patent at 13:61–14:15). To the contrary, Plaintiff urges that the "specification affirmatively states that specifying the encoder is not a required function." Doc. No. 305 at 26 (citing '530 Patent at 12:41–46) (emphasis omitted). Therefore, Plaintiff asserts that Defendants' proposed construction "conflicts with the language of the claim itself." Doc. No. 305 at 26 (citing *CytoLogix Corp. v. Ventana Medical Sys., Inc.*, 424 F.3d 1168, 1173–74 (Fed. Cir. 2005)).

Further, Plaintiff argues *Morgan Stanley* is not binding or persuasive because that case involved different patents. Doc. No. 305 at 27. In particular, Plaintiff argues that *Morgan Stanley* relied upon figures and claim language not present here. Doc. No. 331 at 8–9. Specifically, Plaintiff argues that the patents in *Morgan Stanley* involved extracting a descriptor from a data packet, but that limitation is not present in the patents here. Additionally, Plaintiff argues that unlike the figures in *Morgan Stanley*, none of the figures of the patents at issue recite "append." Therefore, Plaintiff contends that collateral estoppel does not apply in this case. Plaintiff asserts that unlike the patents in *Morgan Stanley*, independent Claim 24 of the '530

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[7] In *MetroPCS*, the Court evaluated "descriptor" as the term was used in the '530 Patent. *Realtime Data LLC v. MetroPCS Texas, LLC*, Case No. 6:10cv493 LED-JDL (E.D. Tex. Oct. 1, 2012). Defendants argue that because *MetroPCS* was issued more than a year before *Morgan Stanley*, *MetroPCS* does not lend support to Plaintiff's argument. At the hearing, Defendants also argued that unlike here, the construction in *MetroPCS* was based on the undisputed portion of the parties' arguments.

Patent requires a descriptor, but the Patent does not mention appendage until dependent Claim 25. At the hearing, Plaintiff argued that not only does the claim language not require appendage, but the specification also does not require the descriptor to be appended. Plaintiff also pointed out that Defendants rely on extrinsic evidence that Plaintiff believes is contradictory to the intrinsic evidence. Further, Plaintiff argues that Dr. Zegler's declaration explains that descriptors can be appended or not appended, but the claims here do not *require* either. *See* Doc. No. 305-15 at 16–18.

Defendants respond that "the same intrinsic evidence relied on by the Federal Circuit [in *Morgan Stanley*] equally applies to construing the 'descriptor' term found in the '530 and '908 Patents." Doc. No. 317 at 25. Specifically, the Federal Circuit relied on a sentence that preceded the patentee's explanation of "descriptor," which stated that the system "appends a corresponding compressing type descriptor to each encoded data block . . . so as to indicate the type of compression format." *Id.* Defendants assert that the preceding sentence also appears in the specification of the '530 and '908 Patents, and therefore the Court should rely on the preceding sentence in the same way the Federal Circuit did in *Morgan Stanley. Id.*

As to Plaintiff's argument that *Morgan Stanley* relied upon figures and claim language not present here, Defendant responds that the court in *Morgan Stanley* did not actually rely on those figures and claim language; instead, the court simply held that the figures and claim language further "highlighted" the appended requirement. *Id.* at 26. Defendants also contend that dependent claim 25 of the '530 Patent "does not merely require that descriptor be appended to the compressed data block. Rather, claim 25 requires that a descriptor be appended to **both** 'the first and second compressed data blocks in the compressed data stream,' adding a further limitation to the independent claim." *Id.* (emphasis in original). Essentially, Defendants contend

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that independent claim 24 requires the descriptor to be appended, and dependent claim 25 adds the limitation that it be appended to both the first and second data blocks. Doc. No. 317 at 26.

Claim 1 of the '530 patent recites in part: "A system comprising: a memory device; and a data accelerator, . . . wherein a first data descriptor is stored on said memory device indicative of said first compression technique, and said first descriptor is utilized to decompress the portion of said compressed data stream associated with said first data block." Claims 2 and 3 state "said data accelerator stores said first descriptor to said memory device" and "said data accelerator retrieves said first descriptor and said compressed data stream from said memory device," respectively. Additionally, independent Claim 24 recites, in relevant part: "A system comprising: a memory device; and a data accelerator, wherein . . . a first data descriptor is stored on said memory device indicative of said first compression technique, and said first descriptor is utilized to decompress the portion of said compressed data stream associated with said first data block." Finally, dependent claim 25 recites "[t]he system of claim 1, wherein the data accelerator is configured to **append a type descriptor** to the first and second compressed data blocks in the compressed data stream, and wherein the type descriptor includes values corresponding to a plurality of encoding techniques that were applied to the compressed data stream." Further, similar to the patents at issue in *Morgan Stanley*, the '908 Patent claims do not mention appendage.

Prior to the definition of "descriptor" Plaintiff cites in support of its proposal, the specification states "[a] description module 38, operatively coupled to the compression ratio module 35, appends a corresponding compression type descriptor to each encoded data block so as to indicate the type of compression format of the encoded data block." '530 Patent at 12:33–38. *See also* '908 Patent at 59–64. Later, the specifications state "the original unencoded input

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data block is selected for output and a null data compression type descriptor is appended thereto." '530 Patent at 12:51–53; '908 Patent at 13:10–12. The specification also states "the data compression type descriptor identifies the corresponding encoding technique applied to the encoded data block, not necessarily the specific encoder." '530 Patent at 12:43–46; '908 Patent at 13:2–5.

In *Morgan Stanley*, the Southern District of New York evaluated three patents to determine whether the "appended" language should be included in the construction of "Descriptor with the Encoded Data which Identifies, Descriptors Indicate, Descriptor Indicates": U.S. Patent No. 7,714,747, 7,417,568, and 7,777,657. *Realtime Data, LLC v. Morgan Stanley, et al.*, 875 F. Supp. 2d 276, 295–96 (S.D.N.Y. June 22, 2012). The primary issue before the court in *Morgan Stanley* was "whether that descriptor must be physically attached or appended to the data, or could be associated with the data in some other fashion." *Id.* at 295. The court there construed the term to mean "recognizable data that is appended to the encoded data for specifying." *Id.* In support, the court discussed "multiple references in the claims themselves in which the descriptor [was] indicated as being 'with' or 'appended to' the data," as well as several flow charts in the '747 Patent that supported the appendage step. *Id.* The court stated, "[t]here is no support in the specification or claims for the descriptor to be completely detached from the data block." *Id.*at 296. The Federal Circuit affirmed with opinion. *Morgan Stanley Affirmance*, slip op. at 18–19. None of the patents at issue in *Morgan Stanley* are currently before the Court, but although *Morgan Stanley* involved different patents, the claim language at issue is similar,

and *Morgan Stanley* relied upon the same disclosure that is at issue here in the patents-in-suit, as quoted above. *See id.*[8]

Notably however, the Federal Circuit found that the claims of the patents at issue in *Morgan Stanley* recited limitations that implied that the descriptor must be attached to the data packet. For example, the Federal Circuit emphasized claim language that required extracting a descriptor from an encoded data packet. *Morgan Stanley Affirmance*, slip op. at 19 (discussing '747 Patent at Claim 1). The other claims at issue in *Morgan Stanley* contain similar limitations. *See* '568 Patent at Claim 1 ("providing a descriptor with the encoded data"); *see also* '747 Patent at Claims 8 ("receives a data packet from the data stream having one or more descriptors" and "analyze the data packet to identify a descriptor"), 14 ("providing a descriptor for the compressed data packet in the data stream"), and 19 ("descriptor comprising one or more values in the compressed data packet in the data stream"); '651 Patent at Claims 1 ("receiving an encoded message in a data packet of the financial data stream having a plurality of data fields associated with the encoded message and one or more descriptors"), 13 ("outputs the encoded data packet with a descriptor"), 22 (similar), 29 (similar), 43 (similar), 91 ("receiving an encoded data packet from the financial data stream having one or more descriptors") & 108 (similar).

Also, as discussed above, dependent Claim 25 of the '530 Patent includes an appendage limitation. As such, a claim differentiation issue that was not present in *Morgan Stanley* has been presented to the Court in this case. Although Defendants argue that Claim 25 recites additional limitations, it is the only claim here discussing appendage. The Court does not assume that the independent claims include appendage here because "limitations stated in dependent claims are not to be read into the independent claim from which they depend." *Curtiss-Wright Flow Control*

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[8] *See Nazomi Commc'ns, Inc. v. Nokia Corp.*, No. C-10-04686 RMW, 2013 WL 3146796, at *6 (N.D. Cal. June 18, 2013) (Whyte, J.) ("Collateral estoppel can apply to common issues in actions involving different but related patents."), *aff'd sub nom. Nazomi Commc'ns, Inc. v. Microsoft Mobile Oy,* 597 F. App'x 1075 (Fed. Cir. 2014).

Corp., 438 F.3d at 1380 (quoting *Nazomi Commc'ns, Inc. v. Arm Holdings, PLC.*, 403 F.3d 1364, 1370 (Fed. Cir. 2005). Accordingly, the Court rejects Defendants' proposed construction.

The Court also rejects Plaintiff's proposed construction. In *MetroPCS*, the parties agreed upon the portion of the term that the Court construed, but here they have not. In particular, the parties have not agreed upon the meaning of "token." The only portion of the term the parties have agreed upon is "recognizable data," but that phrase does not add anything of substance to this term, and therefore the Court declines to include it in the construction. Additionally, both parties are attempting to use the term "descriptor" to define "descriptor," which offers no guidance, does not define the term, and only adds additional confusion.

Accordingly, having resolved the parties' dispute, the Court finds that the term "descriptor" needs no construction. Although both sides have proposed the phrase "recognizable data," that phrase is not adopted because it would not aid the finder of fact.

V. "analyzing data structures or file substructures associated with the plurality of data blocks / analyze data structures or file substructures associated with the plurality of data blocks" ('513 Patent, Claims 11 & 19)

Claim Term	Plaintiffs' Proposal	Defendants' Proposal
analyzing data structures or file substructures associated with the plurality of data blocks / analyze data structures or file substructures associated with the plurality of data blocks ('513 Patent, Claims 11 & 19)	Directly [examining / examine] data structures or file substructures associated with the plurality of data blocks	Directly examining the content of the data [structures or file substructures] to be compressed to determine the data type of that data .

This disputed term presents essentially the same issues as the "recognition of any characteristic, attribute, or parameter that is indicative of an appropriate content dependent

algorithm" term addressed above. Defendants' proposal also indicates that Defendants believe that a data item can have only one data type. Plaintiff argues that "'a plurality of data blocks' could potentially include multiple files and multiple 'data types.'" Doc. No. 305 at 15 (citing '512 Patent at 6:56–59). The specification states "[i]t is to be understood that the system processes the input data stream in data blocks that may range in size from individual bits through complete files or collections of multiple files." '512 Patent at 6:56–59.

For the same reasons as discussed above, and because the claim language and specification do not support Defendants' assertion that a particular data item can have only one data type, the Court rejects the portion of Defendants' proposal that reads "determine the data type." No further construction is necessary, but the Court adopts the parties' common proposal that "analyzing" and "analyze" mean "directly examining" and "directly examine," respectively.

VI. "dictionary" ('812 Patent, Claims 1, 4, 8, 14, 17, 21, & 28)

Claim Term	Plaintiffs' Proposal	Defendants' Proposal
dictionary[9] ('812 Patent, Claims 1, 4, 8, 14, 17, 21, & 28)	No construction necessary. Alternatively: A data structure comprising a plurality of code words, wherein each code word in the data structure is associated with a unique data block string	A set of indexes (dictionary indexes), each of which is mapped to a corresponding data block string ("code word") or a decoder signal ("control code word")

Plaintiff first argues that this term should be construed according to its ordinary meaning. Doc. No. 305 at 29. Alternatively, Plaintiff contends that "dictionary" should be construed according to Claim 1 of the '812 Patent, which states that the dictionary "compris[es] a plurality of code words, wherein each code word in the dictionary is associated with a unique data block string." *Id.* Plaintiff contends that Defendants' proposal "is inconsistent with the claim language

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[9] Oracle does not join this portion of Defendants' brief. Doc. No. 317 at 28.

and the specification" because it "equates a 'code word' with a 'data block string'" and "equates a 'control code word' with a 'decoder signal.'" *Id.* at 30 (emphasis omitted). Essentially, Plaintiff argues that Defendants' proposal is confusing and is not supported by the intrinsic record. Plaintiff contends that Defendants have cited to preferred embodiments in support of their construction, but Plaintiff urges that importing those limitations into the claims would be improper. Doc. No. 331 at 10 (citing *JVW Enters. Inc.*, 424 F.3d 1324, 1335 (Fed. Cir. 2005)). Additionally, Plaintiff argues that because dependent Claims 7 and 20 recite "control code word," that limitation cannot be imported into the independent claims. Doc. No. 331 at 10. At the hearing, Plaintiff also asserted that because the word "decoder signal" does not appear in the specification, it would be inappropriate for the Court to include it in the construction.

On the other hand, Defendants argue that "dictionary" has a special meaning here and "is not the everyday dictionary known to jurors." Doc. No. 317 at 28. Defendants urge that "dictionary" includes "both 'code words' and 'control code words' [and the patent] gives no example of a dictionary without both, and the claimed 'invention' could not operate without both." *Id.* at 29. Additionally, Defendants argue that their construction does not *equate* a code word with a data block string or a control code word with a decoder signal; instead, a code word is *mapped to* a data block string, and a control code word is mapped to signals of the decoder. *Id.* at 30. At the hearing, Defendants also argued that dependent Claim 20 requires *specific* control code words, not control code words generally, which would differentiate the limitation in that dependent claim from the limitation of control code words contained in the independent claim.

Defendants' proposed construction, together with the arguments at the hearing, are a bit unclear, but it appears that Defendants are contending "dictionary" means "a set of indexes

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(dictionary indexes), at least one of which is mapped to a corresponding code word *and* at least one of which is mapped to a control code word." At the hearing, Defendants clarified that the set of indexes must include *both* at least one code word and at least one control code word. The Court disagrees.

Because the term "dictionary" is used here in a manner that differs from its usage in ordinary parlance, construction is appropriate to assist the finder of fact. The asserted independent claims shed light on the correct construction of this term. The claims state, in relevant part, "maintaining a dictionary comprising a **plurality of code words**, wherein each **code word** in the dictionary is **associated** with a **unique data block string**; . . . searching for a code word in the dictionary having a unique data block string associated therewith that matches the built data block string . . . ." '812 Patent at Claims 1 & 14 (emphasis added). Dependent Claims 8 and 21 state "each code word in the dictionary comprises a **dictionary index**", and dependent Claims 7 and 20 state "the code words in the dictionary further comprise[ ] at least one **control code word** representing one of dictionary initialization, a run-length encoded sequence, an end of the input data, and a combination thereof." '812 Patent at Claims 7, 8, 20, & 21. Despite Defendants' argument that dependent Claims 7 and 20 add additional limitations in addition to control code words, the fact that these dependent claims include control code words—a limitation not found in the independent claims—is an indication that the limitations should not be imported into the independent claims.[10]

Additionally, Defendants argue the claimed invention cannot operate without code words *and* control code words, but Defendants have not established any such requirement in the claims at issue. The specification states "[t]he code word dictionary 15 comprises a plurality of

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[10] The recital in independent Claim 28 of the '812 Patent that the dictionary includes "control code words" is not a limitation upon the term "dictionary" generally but rather is merely an additional limitation in that particular claim. *See* '812 Patent at Claim 28.

dictionary indices D[i], wherein each index in the dictionary 15 is mapped . . . to either a predefined control code or a different code word corresponding to a character (byte) string." '812 Patent at 5:61–6:3. This portion of the specification does not indicate that a control code word is required. The specification further states "[i]n *another aspect* of the present inventions, the dictionary *further comprises* a plurality of control code words, wherein a control code word is designated to represent a dictionary initialization, a run-length encoded sequence, and the end of the input data (or completion of the encoding process). These control code words are used in the decoding process to re-create the input data." '812 Patent at 3:51–57 (emphasis added). While this portion of the specification speaks to control code words used for decoding, it is clear that this is just one embodiment of the invention. Also, whereas dependent claims 7 and 20 recite control code words, independent Claims 1 and 14 do not. Defendants' proposal would improperly import limitations from a particular disclosed embodiment and from dependent claims. *JVW Enters.*, 424 F.3d at 1335; *Curtiss-Wright Flow Control Corp.*, 438 F.3d at 1380.

Further, although Defendants contend differently, their proposed construction would at least on its face construe "dictionary" such that "data block string" is synonymous with "code word" and such that "decoder signal" is synonymous with "control code word." The Court finds such construction inappropriate given the patent claims and specification discussed above. Defendants have not demonstrated that "data block string" and "code word" are synonymous. To the contrary, Claim 1 of the '812 Patent recites that "each code word in the dictionary is *associated* with a unique data block string." '812 Patent at Claims 1 & 14; *See also* '812 Patent at 5:66-6:3 ("code word corresponding to a character (byte) string"). Accordingly, the Court rejects Defendants' proposed construction.

As such, the Court construes "dictionary" as "a data structure comprising a plurality of code words, wherein each code word in the data structure is associated with a unique data block string."

VII. "circuit" ('513 Patent, Claims 15 & 19)

Claim Term	Plaintiffs' Proposal	Defendants' Proposal
circuit ('513 Patent, Claims 15 & 19)	No construction necessary.	A dedicated integrated circuit, as opposed to a general purpose computer (or software running on a general purpose computer)

Plaintiff contends this term does not require construction because one of ordinary skill in the art "would be familiar with, and apply the plain and ordinary meaning" to the term. Doc. No. 305 at 19. Plaintiff asserts that Defendants' proposal is unhelpful, as it "merely take[s] the claim term in dispute [ ] and add[s] 18 other words around it." *Id.* Plaintiff further argues that "the intrinsic record provides no disclaimer or disavowal for Defendants' lengthy—and improper— rewriting" and instead "the specification expressly teaches that circuits performing the compression algorithms on circuits do not require the limitations Defendants seek to import." *Id.* (citing *Thorner v. Sony Computer Entertainment Am. LLC*, 669 F.3d 1362, 1365 (Fed. Cir. 2012) (emphasis omitted). Defendants respond that their proposal is consistent with the only instance in which "circuit" appears in the specification, and "claim 15 requires four different circuits" and "does not mention encoders." Doc. No. 317 at 18–19. At the hearing, Defendants also argued that it is also permissible to exclude embodiments.[11]

Independent Claim 15 recites, in relevant part:

> 15. A device for compressing data comprising:

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[11] To support this assertion, Defendants' cited *PPC Broadband, Inc. v. Corning Optical Commc'ns RF, LLC*, 815 F.3d 747, 755 (Fed. Cir. 2016) and *Helmsderfer v. Bobrick Washroom Equp., Inc.*, 527 F.3d 1379, 1383 (Fed. Cir. 2008).

a first circuit configured to analyze a plurality of data blocks to recognize when an appropriate content independent compression algorithm is to be applied to the plurality of data blocks;

a second circuit configured to apply the appropriate content independent data compression algorithm to a portion of the plurality of data blocks to provide a compressed data portion;

a third circuit configured to analyze a data block from another portion of the plurality of data blocks for recognition of any characteristic, attribute, or parameter that is indicative of an appropriate content dependent algorithm to apply to the data block; and

a fourth circuit configured to apply the appropriate content dependent data compression algorithm to the data block to provide a compressed data block when the any characteristic, attribute, or parameter is identified.

Neither independent Claim 15 nor dependent Claim 19 requires a dedicated hardware for the operation of the four circuits described therein.

The specification also does not suggest that a "circuit" requires dedicated hardware. The specification discloses that encoders may operate on "dedicated hardware" or on a "single central processor." '513 Patent at 17:3–10. Instead, the specification states "one or more algorithms *may be implemented* in dedicated hardware such as an MPEG4 or MP3 encoding integrated circuit." '513 Patent at 17:21–24 (emphasis added). This portion of the specification merely recites an example of a type of "circuit" and clarifies that dedicated hardware is permissive but is also merely a description of a preferred embodiment. The specification also states "[t]his process is intended to eliminate the complexity and additional processing overhead associated with multiplexing concurrent encoding techniques on *a single central processor and/or dedicated hardware, set of central processors and/or dedicated hardware, or any achievable combination.*" '513 Patent at 17:12–17.

Defendants' proposal would require a separate hardware for each circuit discussed in Claim 15, but contrary to Defendants' assertions, the claims and specification do not require a separate hardware for each of the four circuits. Defendants are attempting to import limitations disclosed in embodiments into the claims. Accordingly, the Court rejects Defendants' proposed construction and finds that no further construction is necessary.

Finally, the parties submit the following agreed constructions:

Term	Agreed Construction
memory device ('530 Patent, Claims 1–5, 9–12, 24; '908 Patent, Claims 1, 2, 4–6, 21, 22, 25)	An identified memory device to which data is directed for recording and later retrieval
default encoder ('992 Patent, Claims 48, 49)	An encoder used automatically in the absence of a designated alternative
data type / data types ('992 Patent, Claims 48, 49)	Categorization of the data as one of ASCII, image data, multimedia data, signed and unsigned integers, pointers, or other data type
analyzing data within the data block to identify a first data type of the data within the data block ('992 Patent, Claims 48, 49)	Directly examining the content of the data to be compressed to determine the data type of that data
compressing / compressed / compression (*passim*)	[Representing / represented / representation] of data with fewer bits
receiving an input data block / receiving a data block / receiving said compressed data block / in received form / receiving the plurality of data blocks / receiving a first and a second data block over a communications channel / data block is received uncompressed ('812 Patent, Claims 2, 15; '992 Patent, Claims 48, 49; '530 Patent, Claims 1, 24; '513 Patent, Claims 2, 16; '908 Patent, Claim 25)	Receiving from an external source one or more data blocks
data stream is received ('530 Patent, Claims 1, 24)	One or more blocks transmitted in sequence from an external source whose characteristics are not controlled by the data encoder or decoder
excludes analyzing based only on a descriptor ('513 Patent, Claims 1, 15; '992 Patent, Claims 48, 49)	The analysis cannot be based solely on a descriptor
encoder / a first encoder ('992 Patent,	Hardware and/or software that performs data

Claims 48, 49; '530 Patent, Claims 15, 18; '812 Patent, Claim 28)	compression
data (*passim*)	A representation of information
run-length sequence of data blocks ('812 Patent, Claims 1–3, 14–16, 28)	Plural consecutive similar data blocks
Claims 48 and 49 of the '992 patent	No construction necessary
data blocks / data block (*passim*)	A single unit of data, which may range in size from individual bits through complete files or collection of multiple files

The Court, having reviewed the parties' agreed constructions, as well as the asserted claims, specifications, and prosecution history, finds the parties' agreed constructions appropriate and construes the terms as set forth above.

CONCLUSION

For the foregoing reasons, the Court adopts the constructions set forth above.

So ORDERED and SIGNED this 28th day of July, 2016.

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JOHN D. LOVE
UNITED STATES MAGISTRATE JUDGE